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EXAMINER

BOUTAH, ALINA A

ART UNIT PAPER NUMBER

2143

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/520,133

Applicant(s)

BAGGA ET AL.

Examiner

Alina N Boutah

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2143

DETAILED ACTION

Response to Amendment

This Action is in response to Applicant's amendment filed June 3, 2004. Claims 1-19 are pending in the present application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lucent Technologies White Paper: "*Operations Architecture for Data-Centric Converged Telecommunications Networks: Lucent Technologies' Open Operations CORBA Architecture*" by Dr. Mark H. Mortensen in view of USPN 6,289,201 issued to Weber et al.

Regarding claim 1, Mortensen teaches a network management system comprising: an inter-domain configuration manager arranged between a set of one or more network service management applications and a plurality of network element domain managers, each of the domain managers being associated with a particular architectural or technological domain of a multi-layer network, the configuration manager implementing network service design and provisioning functions across a plurality of the domains of the network in conjunction with

Art Unit: 2143

stored connectivity information characterizing the multi-layer network (page 6, "*Solving the Interdomain Problem – The Interdomain Manager (IDM)*"; figures on page 8).

However, Mortensen fails to explicitly teach wherein the inter-domain configuration manager further comprises an inter-domain tree manager, the inter-domain tree manager comprising a logical tree manager operative to manage a transport service and facility hierarchy associated with the multi-layer network, and to maintain corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the transport service and facility hierarchy.

Weber teaches an inter-domain configuration manager (figure 2, 230) comprising an inter-domain tree manager, the inter-domain tree manager comprising a logical tree manager operative to manage a transport service and facility hierarchy associated with the multi-layer network (figure 3, 300), and to maintain corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the transport service and facility hierarchy (figures 2 and 3, abstract, col. 4, lines 4-16; col. 5, lines 43-51).

At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an inter-domain tree manager in order to provide hierarchical structure between the domains, therefore allowing quick retrieval of information associated with the network.

Regarding claim 2, Mortensen teaches the system of claim 1 wherein the inter-domain configuration manager is interfaced to at least one of the set of network service management

Art Unit: 2143

applications and the plurality of network element domain managers through a published Common Object Request Broker Architecture (CORBA) Application Programming Interface (API) (page 9, “*Interlayer Interfaces – CORBA’s the Key!*”).

Regarding claim 3, Mortensen teaches the system of claim 1 wherein the set of one or more network service management applications comprise one or more of an order manager, a trouble manager, a billing manager, a customer service manager, and a service level reporter (page 8, 2nd figure, “*Corporate Data Assets – Separating Data Repositories From Data Users (Applications)*”).

Regarding claim 4, Mortensen teaches the system of claim 1 wherein the domains of the multi-layer network comprise one or more of a circuit-switched domain, an Internet Protocol (IP) domain, an Asynchronous Transfer Mode (ATM) domain, a Frame Relay (FR) domain, a Synchronous Digital Hierarchy (SDH) domain, a Synchronous Optical Network (SONET) domain, and an optical domain (page 5, lines 9-19).

Regarding claim 5, Mortensen teaches the system of claim 1 wherein the inter-domain configuration manager provides single-point access to provisioning functions in a manner, which is independent of the corresponding domains (“*Getting Real – The Limitations of Interdomain Management*, last four lines).

Regarding claim 6, Mortensen teaches the system of claim 1 wherein the inter-domain configuration manager provides single-point access to end-to-end views of services and their underlying infrastructure, down to physical layer of the multi-layer network, in a manner which is independent of the corresponding domains (page 6, “*Solving the Interdomain Problem – The Interdomain Manager (IDM)*”; “*Getting Real – The Limitations of Interdomain Management*”, last four lines).

Regarding claim 7, Mortensen teaches the system of claim 1 wherein the inter-domain configuration manager further comprises an inter-domain provisioning manager (page 6, “*Solving the Interdomain Problem – The Interdomain Manager (IDM)*”; “*Getting Real – The Limitations of Interdomain Management*”; page 7, lines 9-19). Mortensen fails to explicitly teach an inter-domain tree manager. Weber teaches an inter-domain tree manager (figure 2, col. 4, lines 4-16). At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an inter-domain tree manager in order to provide hierarchical structure between the domains, therefore allowing quick retrieval of information associated with the network.

Regarding claim 8, Mortensen fails to explicitly teach the system of claim 7 wherein the inter-domain tree manager maintains an end-to-end view of planned and provisioned transport services and facilities for the multi-layer network. Weber teaches the inter-domain tree manager maintaining an end-to-end view of planned and provisioned transport services and facilities for the multi-layer network (figure 2, col. 4, lines 4-16). At the time the invention was made, one of

Art Unit: 2143

ordinary skill in the art would have been motivated to employ an inter-domain tree manager in order to provide hierarchical structure between the domains, therefore allowing quick retrieval of information associated with the network.

Regarding claim 9, Mortensen fails to explicitly teach the system of claim 7 wherein the inter-domain tree manager comprises a logical tree manager, a view manager, and a connectivity database for storing the connectivity information characterizing the multi-layer network. Weber teaches the inter-domain tree manager comprising a logical tree manager, a view manager, and a connectivity database for storing the connectivity information characterizing the multi-layer network (figure 2, col. 4, lines 4-16). At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an inter-domain tree manager in order to provide hierarchical structure between the domains, therefore allowing quick retrieval of information associated with the network.

Regarding claim 10, Mortensen fails to explicitly teach the system of claim 9 wherein the logical tree manager manages end-to-end transport service and facility hierarchy, and maintains corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the transport service and facility hierarchy. Weber teaches an inter-domain configuration manager comprising an inter-domain tree manager, the inter-domain tree manager comprising a logical tree manager operative to manage a transport service and facility hierarchy associated with the multi-layer network, and to maintain corresponding parent-child relationships in one or more tree structures that reference the domains

Art Unit: 2143

containing real-time network details associated with the transport service and facility hierarchy (figure 2, col. 4, lines 4-16).

At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an inter-domain tree manager in order to provide hierarchical structure between the domains, therefore allowing quick retrieval of information associated with the network.

Regarding claim 11, Mortensen teaches the system of claim 9 wherein the view manager provides a plurality of different presentations of the network connectivity information, and provides a particular presentation associated with a tree structure stored by the logical tree manager upon receipt of a request for such a presentation (page 6, "*Solving the Interdomain Problem – The Interdomain Manager (IDM)*"; "*Getting Real – The Limitations of Interdomain Management*"; page 7, lines 9-19).

Regarding claim 12, Mortensen teaches the system of claim 7 wherein the inter-domain provisioning manager provides provisioning of services and facilities across the multiple domains (page 6, "*Solving the Interdomain Problem – The Interdomain Manager (IDM)*"; page 7, lines 9-19).

Regarding claim 13, Mortensen teaches the system of claim 7 wherein the inter-domain provisioning manager comprises an end-to-end design manager and an implementation manager (page 6, "*Solving the Interdomain Problem – The Interdomain Manager (IDM)*").

Art Unit: 2143

Regarding claim 14, the system of claim 13 wherein the end-to-end design manager provides network service design capabilities across the plurality of domains, utilizing a set of design rules for inter-domain connectivity, and coordinates designs among the domains in the particular inter-domain path page 6, “*Solving the Interdomain Problem – The Interdomain Manager (IDM)*”).

Regarding claim 15, Mortensen teaches the system of claim 13 wherein the implementation manager coordinates the implementation of an end-to-end network service design across the plurality of domains (page 6, “*Solving the Interdomain Problem – The Interdomain Manager (IDM)*”).

Regarding claim 16, Mortensen teaches the system of claim 1 further comprising an inter-domain fault management associated with the inter-domain configuration manager and arranged between at least a subset of the network service management applications and at least a subset of the plurality of network element domain managers, the inter-domain fault manager providing fault management across the plurality of domains of the network (page 8, 1st figure, line 5).

Regarding claim 17, Mortensen teaches the system of claim 1 further comprising an inter-domain capacity manager associated with the inter-domain configuration manager and arranged between at least a subset of the network service management applications and at least a subset of the plurality of network element domain managers, the inter-domain manager providing management of transport capacity across the multi-layer network (page 6, “*Solving the*

Art Unit: 2143

Interdomain Problem – The Interdomain Manager (IDM)”; “Getting Real – The Limitations of Interdomain Management”; page 7, lines 9-19)

Claims 18 and 19 are similar to claim 1 therefore are also rejected under the same rationale.

Response to Arguments

Applicant's arguments filed June 3, 2004 have been fully considered but they are not persuasive.

Applicant argues that Weber fails to teach or suggest “an inter-domain manager comprising a logical tree manager, with the logical tree manager being operative to manage a transport service and facility hierarchy associated with a multi-layer network, and to maintain corresponding parent-child relationships in one or more structures that reference domains containing real-time network details associated with the transport service and facility, as recited in claim 1.” The Patent Office respectfully submits that this feature is being taught in figures 2 and 3, abstract, col. 4, lines 4-16, and col. 5, lines 43-51 of the Weber reference. Specifically, the cited area of the reference teaches a multilayer service management system that manages a transport service (abstract; figures 2 and 3), and maintains hierarchy relationships between domains containing network details (figure 2). Although it does not explicitly disclose “parent-child” relationships, by definition of “hierarchy,” it is strongly implied that each domain is subordinate to the one above it, which in this case is interpreted as being similar to parent-child. Therefore Weber does teach the claimed limitation.

Art Unit: 2143

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N Boutah whose telephone number is (703) 305-5104. The examiner can normally be reached on Monday-Thursday (9:00 am-7:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2143

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANB

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